



2012 Adult Immunization Update

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Disclosures



No financial conflict or interest with the manufacturer of any product named during this course.

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Disclosures



During this presentation I will discuss an off-label use for adolescent/adult tetanus-toxoid, reduced diphtheria-acellular pertussis vaccine (Tdap), human papillomavirus (HPV), pneumococcal polysaccharide vaccine (PPSV) and Zoster vaccine (Zos)

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Overview



2012 adult schedule

Tdap –pregnancy

Influenza vaccine

Human Papillomavirus Vaccine
- Males

Hepatitis B Vaccine – Diabetics

Pneumococcal polysaccharide
vaccine and zoster vaccine

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Recommended Adult Immunization Schedule—United States - 2012

Note: These recommendations must be read with the footnotes that follow containing number of doses, intervals between doses, and other important information.

Figure 1. Recommended adult immunization schedule, by vaccine and age group¹

VACCINE ▼	AGE GROUP ►	19-21 years	22-26 years	27-49 years	50-59 years	60-64 years	≥ 65 years
Influeza ²		1 dose annually					
Tetanus, diphtheria, pertussis (Td/Tdap) ^{3,*}		Substitute 1-time dose of Tdap for Td booster; then boost with Td every 10 yrs					Td/Tdap ^a
Varicella ^{4,*}		2 Doses					
Human papillomavirus (HPV) Female ^{5,*}		3 doses					
Human papillomavirus (HPV) Male ^{5,*}		3 doses					
Zoster ⁶						1 dose	
Measles, mumps, rubella (MMR) ^{7,*}		1 or 2 doses				1 dose	
Pneumococcal (polysaccharide) ^{8,9}		1 or 2 doses					1 dose
Meningococcal ^{10,*}		1 or more doses					
Hepatitis A ^{11,*}		2 doses					
Hepatitis B ^{12,*}		3 doses					

*Covered by the Vaccine Injury Compensation Program

	For all persons in this category who meet the age requirements and who lack documentation of vaccination or have no evidence of prior infection		Recommended if some other risk factor is present (e.g., on the basis of medical, occupational, lifestyle, or other indications)		Tdap recommended for .65 if contact with <12 month old child. Either Td or Tdap can be used if no infant contact.		No recommendation
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Report all clinically significant postvaccination reactions to the Vaccine Adverse Event Reporting System (VAERS). Reporting forms and instructions on filing a VAERS report are available at www.vaers.hhs.gov or by telephone, 800-822-7967.

Information on how to file a Vaccine Injury Compensation Program claim is available at www.hrsa.gov/vaccinecompensation or by telephone, 800-338-2382. To file a claim for vaccine injury, contact the U.S. Court of Federal Claims, 717 Madison Place, N.W., Washington, D.C. 20005; telephone, 202-357-6400.

Additional information about the vaccines in this schedule, extent of available data, and contraindications for vaccination is also available at www.cdc.gov/vaccines or from the CDC-INFO Contact Center at 800-CDC-INFO (800-232-4636) in English and Spanish, 8:00 a.m. - 8:00 p.m. Eastern Time, Monday - Friday, excluding holidays.


Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services.


Figure 2. Vaccines that might be indicated for adults based on medical and other indications¹


VACCINE ▼	INDICATION ►	Pregnancy	Immunocompromising conditions (excluding human immunodeficiency virus [HIV]) ^{4,6,7,14}	HIV infection ^{4,7,13,14} CD4+ T lymphocyte count	Men who have sex with men (MSM)	Heart disease, chronic lung disease, chronic alcoholism	Asplenia ¹³ (including elective splenectomy and persistent complement component deficiencies)	Chronic liver disease	Diabetes, kidney failure, end-stage renal disease, receipt of hemodialysis	Health-care personnel
Influenza ²			1 dose TIV annually		1 dose TIV or LAIV annually		1 dose TIV annually			1 dose TIV or LAIV annually
Tetanus, diphtheria, pertussis (Td/Tdap) ^{3,*}			Substitute 1-time dose of Tdap for Td booster; then boost with Td every 10 yrs							
Varicella ^{4,*}			Contraindicated				2 doses			
Human papillomavirus (HPV) Female ^{5,*}			3 doses through age 26 yrs				3 doses through age 26 yrs			
Human papillomavirus (HPV) Male ^{5,*}			3 doses through age 26 yrs				3 doses through age 21 yrs			
Zoster ⁶			Contraindicated				1 dose			
Measles, mumps, rubella (MMR) ^{7,*}			Contraindicated				1 or 2 doses			
Pneumococcal (polysaccharide) ^{8,9}			1 or 2 doses							
Meningococcal ^{10,*}			1 or more doses							
Hepatitis A ^{11,*}			2 doses							
Hepatitis B ^{12,*}			3 doses							


*Covered by the Vaccine Injury Compensation Program

The recommendations in this schedule were approved by the Centers for Disease Control and Prevention's (CDC) Advisory Committee on Immunization Practices (ACIP), the American Academy of Family Physicians (AAFP), the American College of Physicians (ACP), American College of Obstetricians and Gynecologists (ACOG) and American College of Nurse-Midwives (ACNM).

 For all persons in this category who meet the age requirements and who lack documentation of vaccination or have no evidence of prior infection

 Recommended if some other risk factor is present (e.g., on the basis of medical, occupational, lifestyle, or other indications)

 Contraindicated

 No recommendation

These schedules indicate the recommended age groups and medical indications for which administration of currently licensed vaccines is commonly indicated for adults ages 19 years and older, as of January 1, 2012. For all vaccines being recommended on the Adult Immunization Schedule: a vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Licensed combination vaccines may be used whenever any components of the combination are indicated and when the vaccine's other components are not contraindicated. For detailed recommendations on all vaccines, including those used primarily for travelers or that are issued during the year, consult the manufacturers' package inserts and the complete statements from the Advisory Committee on Immunization Practices (<http://www.cdc.gov/vaccines/pubs/acip-list.htm>). Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services.



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Centers for Disease and Prevention



TABLE 1. Contraindications and precautions¹ to commonly used vaccines in adults.*†

Vaccine	Contraindications	Precautions
Influenza, injectable trivalent (TIV)	Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine or to a vaccine component, including egg protein.	Moderate or severe acute illness with or without fever. History of Guillain-Barré syndrome (GBS) within 6 weeks of previous influenza vaccination.
Influenza, Live attenuated (LAIV) ²	Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine or to a vaccine component, including egg protein. Immune suppression. Certain chronic medical conditions such as asthma, diabetes, heart or kidney disease. ³ Pregnancy.	Moderate or severe acute illness with or without fever. History of GBS within 6 weeks of previous influenza vaccination. Receipt of specific antivirals (i.e., amantadine, rimantadine, zanamivir, or oseltamivir) 48 hours before vaccination. Avoid use of these antiviral drugs for 14 days after vaccination.
Tetanus, diphtheria, pertussis (Tdap) Tetanus, diphtheria (Td)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component. For Tdap only: Encephalopathy (e.g., coma, decreased level of consciousness, or prolonged seizures), not attributable to another identifiable cause, within 7 days of administration of previous dose of DTP, DTaP, or Tdap.	Moderate or severe acute illness with or without fever. GBS within 6 weeks after a previous dose of tetanus toxoid-containing vaccine. History of arthus-type hypersensitivity reactions after a previous dose of tetanus or diphtheria toxoid-containing vaccine; defer vaccination until at least 10 years have elapsed since the last tetanus toxoid-containing vaccine. For Tdap only: Progressive or unstable neurological disorder, uncontrolled seizures, or progressive encephalopathy until a treatment regimen has been established and the condition has stabilized.
Varicella (Var) ²	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component. Known severe immunodeficiency (e.g., from hematologic and solid tumors, receipt of chemotherapy, congenital immunodeficiency, or long-term immunosuppressive therapy ⁴ or patients with HIV infection who are severely immunocompromised). Pregnancy.	Recent (≤ 11 months) receipt of antibody-containing blood product (specific interval depends on product). ^{5,6} Moderate or severe acute illness with or without fever. Receipt of specific antivirals (i.e., acyclovir, famciclovir, or valacyclovir) 24 hours before vaccination; if possible, delay resumption of these antiviral drugs for 14 days after vaccination.
Human papillomavirus (HPV)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component.	Moderate or severe acute illness with or without fever. Pregnancy.
Zoster (Zos)	Severe allergic reaction (e.g., anaphylaxis) to a vaccine component. Known severe immunodeficiency (e.g., from hematologic and solid tumors, receipt of chemotherapy, or long-term immunosuppressive therapy ⁴ or patients with HIV infection who are severely immunocompromised). Pregnancy.	Moderate or severe acute illness with or without fever. Receipt of specific antivirals (i.e., acyclovir, famciclovir, or valacyclovir) 24 hours before vaccination; if possible, avoid use of these antiviral drugs for 14 days after vaccination.
Measles, mumps, rubella (MMR) ²	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component. Known severe immunodeficiency (e.g., from hematologic and solid tumors, receipt of chemotherapy, congenital immunodeficiency, or long-term immunosuppressive therapy ⁴ or patients with HIV infection who are severely immunocompromised). Pregnancy.	Moderate or severe acute illness with or without fever. Recent (within 11 months) receipt of antibody-containing blood product (specific interval depends on product). ^{5,6} History of thrombocytopenia or thrombocytopenic purpura. Need for tuberculin skin testing. ⁷
Pneumococcal polysaccharide (PPSV)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component.	Moderate or severe acute illness with or without fever.
Meningococcal conjugate (MCV4) Meningococcal polysaccharide (MPSV4)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component.	Moderate or severe acute illness with or without fever.
Hepatitis A (HepA)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component.	Moderate or severe acute illness with or without fever. Pregnancy.
Hepatitis B (HepB)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component.	Moderate or severe acute illness with or without fever.

1. Vaccine package inserts and the full ACIP recommendations for these vaccines should be consulted for additional information on vaccine-related contraindications and precautions and for more information on vaccine exceptions. Events or conditions listed as precautions should be reviewed carefully. Benefits of and risks for administering a specific vaccine to a person under these circumstances should be considered. If the risk from the vaccine is believed to outweigh the benefit, the vaccine should not be administered. If the benefit of vaccination is believed to outweigh the risk, the vaccine should be administered.

2. LAIV, MMR, and varicella vaccines can be administered on the same day. If not administered on the same day, these live vaccines should be separated by at least 28 days.

3. See CDC, Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices (ACIP), 2010. MMWR 2010;59(No. RR-8) at www.cdc.gov/vaccines/pubs/acip-list.htm.

4. Substantially immunosuppressive steroid dose is considered to be ≥ 20 mg of daily receipt of 20 mg or 2 mg/kg body weight of prednisone or equivalent.

5. Vaccine should be deferred for the appropriate interval if replacement immune globulin products are being administered.

6. See Table 5 in CDC, General Recommendations on Immunization: Recommendations of the Advisory Committee on Immunization Practices [ACIP] at www.cdc.gov/vaccines/pubs/acip-list.htm.

7. Measles vaccination might suppress tuberculin reactivity temporarily. Measles-containing vaccine can be administered on the same day as tuberculin skin testing. If testing cannot be performed until after the day of MMR vaccination, the test should be postponed for 24 weeks after the vaccination. If an urgent need exists to skin test, do so with the understanding that reactivity might be reduced by the vaccine.

*Adapted from "Table 6. Contraindications and Precautions to Commonly Used Vaccines," found in: "General Recommendations on Immunization: Recommendations of the Advisory Committee on Immunization Practices" MMWR 2011; 60(No. RR-2), p.40-41 and Appendix A in "The Pink Book" Epidemiology and Prevention of Vaccine Preventable Diseases, 12th Edition 2011 at <http://www.cdc.gov/vaccines/pubs/pinkbook/default.htm>.

† Latex allergy: some types of prefilled syringes contain natural rubber latex or dry natural latex rubber. Consult the package insert for any vaccine administered.

More information on vaccine components, contraindications and precautions is also available from specific vaccine package inserts, the ACIP recommendations for specific vaccines, and is summarized in "The Pink Book" Epidemiology and Prevention of Vaccine Preventable Diseases, 12th Edition 2011 at <http://www.cdc.gov/vaccines/pubs/pinkbook/default.htm>.



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Pertussis



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Tdap

Tdap reduces the risk of pertussis by 60% - 80%

Adult Tdap approved ages

- 19 years and older for Boostrix
- 19 through 64 years for Adacel

Wei SC et al. *Clin Infect Dis* 2010;51:315-21

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Tdap Recommendations for Adults



Persons 19 through 64 years of age who have not received Tdap should receive a dose followed by Td booster doses every 10 years

Currently only one dose of Tdap is recommended

MMWR 2011; 60 (No. 1):13-5

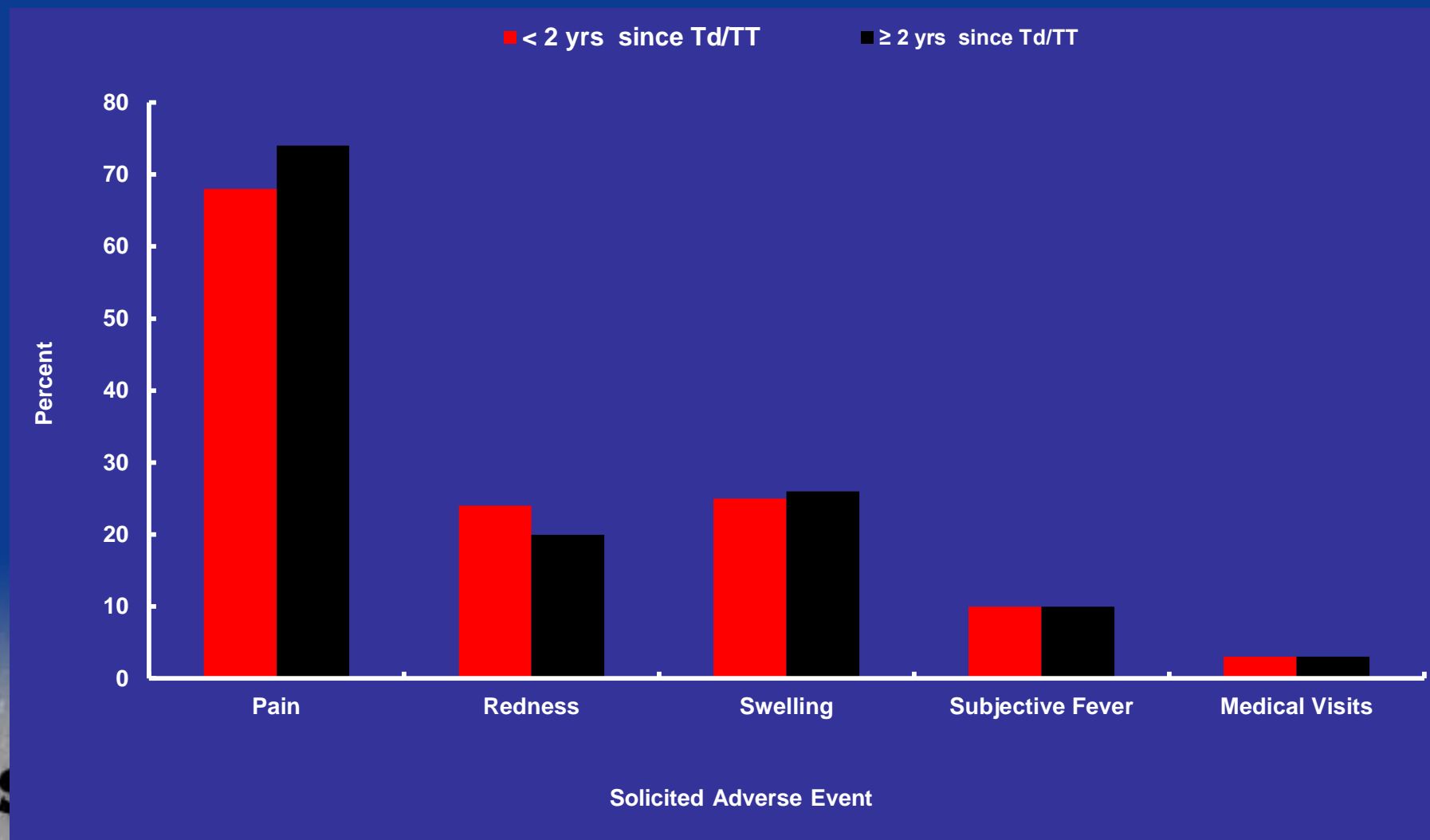
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Tdap Adverse Event Rates by Interval Since Previous Td/TT



Talbot et. Al. Vaccine 2010;28:8001-7.





New Tdap Interval Recommendations*

Tdap can be administered regardless of the interval since the last tetanus and diphtheria containing vaccine

ACIP concluded that while longer intervals between Td and Tdap vaccination could decrease the occurrence of local reactions, the benefits of protection against pertussis outweigh the potential risk for adverse events

*off-label recommendation. *MMWR* 2011; 60 (No. 1):13-5

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New Tdap Recommendation for Adults



Persons 65 years old or older
who anticipate or have close
contact with an infant should
receive a dose of Tdap if not
already received

off-label recommendation. *MMWR* 2011; 60 (No. 1):13-5

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Tdap in Pregnancy



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Tdap , Pregnancy, and Timing



Providers of pregnant women should recommend Tdap to their patients if not previously received and after 20 weeks gestation

This strategy is preferred to cocooning, but if Tdap cannot be given in pregnancy it can be given in postpartum period

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Influenza



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Seasonal Influenza Impact in U.S.



Range of 3,349-48,614 (average 23,607) influenza-related deaths*

- 2.7 times higher when H3N2 prominent
- ~90% among 65 and older
- ~2,400 deaths annually among 19-64 year olds

Annual average of 220,000 hospitalizations

- ~50% in 65 and older

*Data from 1976 through 2007. MMWR 2010;59:1057-62.

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Influenza Vaccine Screening



Evidence that persons with mild,
moderate, or severe allergy to eggs
can tolerate TIV

Quantity of ovalbumin (egg protein) in
dose of TIV less than 1.0 mcg

History of severe egg allergy requires
additional screening

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FIGURE 2. Recommendations regarding influenza vaccination for persons who report allergy to eggs — Advisory Committee on Immunization Practices (ACIP), 2011–12 influenza season

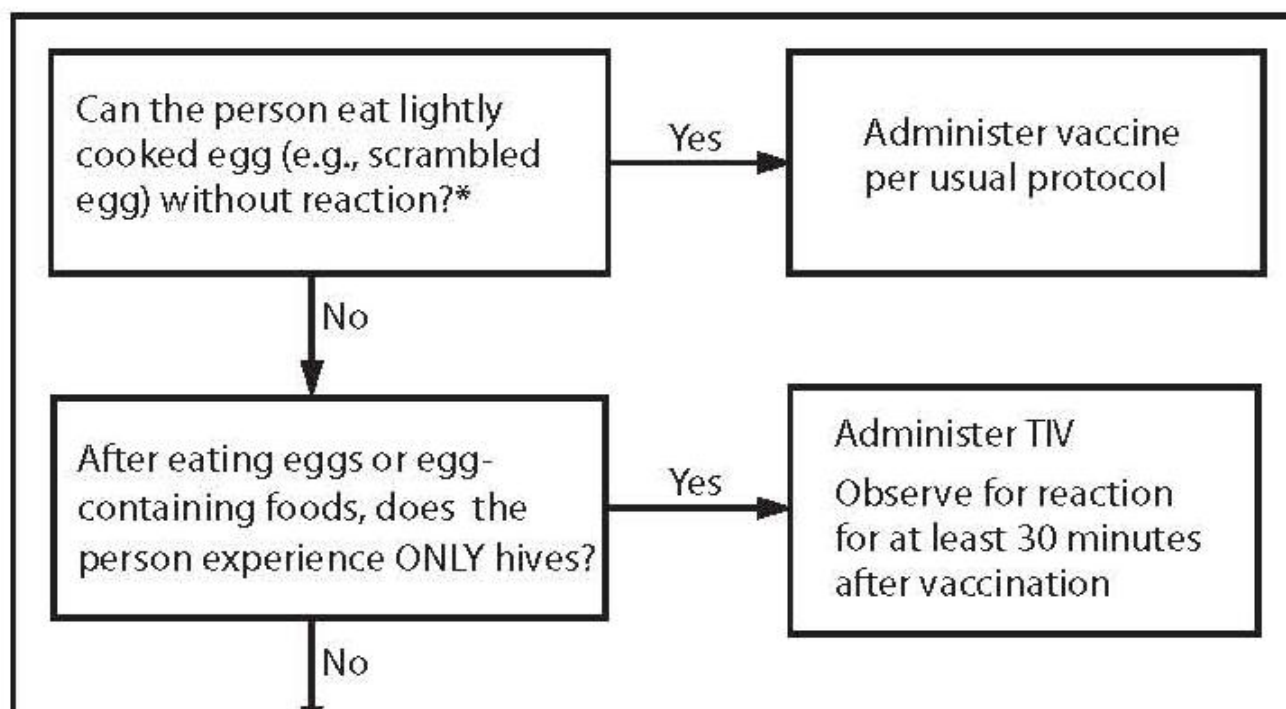
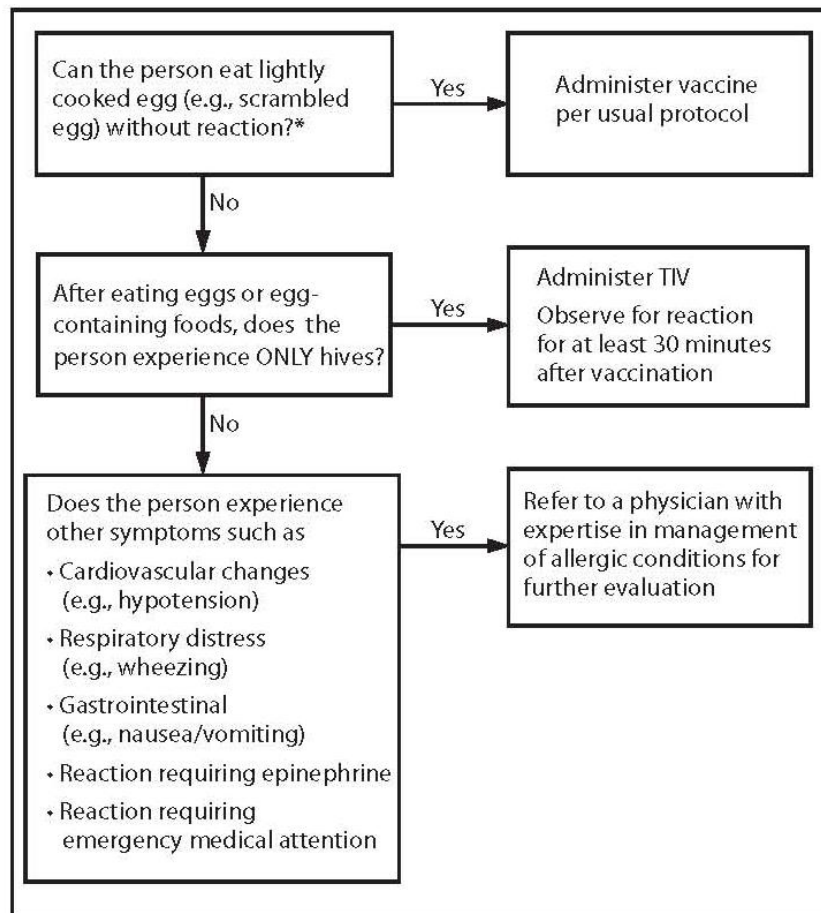


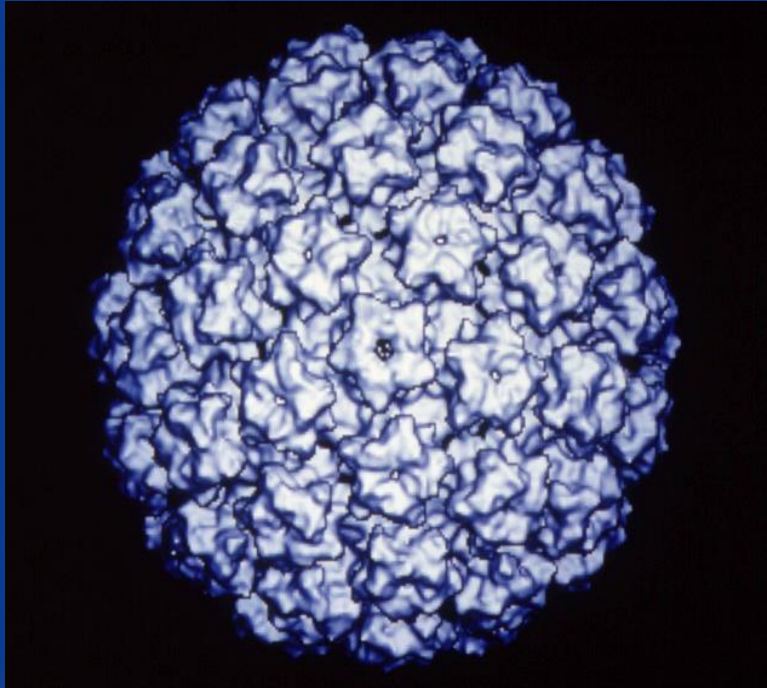
FIGURE 2. Recommendations regarding influenza vaccination for persons who report allergy to eggs — Advisory Committee on Immunization Practices (ACIP), 2011–12 influenza season



* Persons with egg allergy might tolerate egg in baked products (e.g., bread or cake). Tolerance to egg-containing foods does not exclude the possibility of egg allergy.



Human Papillomavirus



Common sexually transmitted infection

More than 100 types

Established cause of cervical and other anogenital cancers

Worldwide cervical cancer causes 233,000 deaths per year

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HPV Prevalence: Population Estimates, U.S.

20 million people are infected

6.2 million new infections each year

> 50% of sexually active men & women
acquire genital HPV infection

74% of new infections occur in persons 15
– 24 years of age

W. Cates, STD April 1999, Weinstock, Perspectives on Sexual and
Reproductive Health 2004, Koutsky Am J Med 1997

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HPV-Associated Disease



Type	Women	Men
16/18	70% of Cervical Cancer 70% of Anal/genital Cancer	70% of Anal Cancer
6/11	90% of Genital Warts 90% of RRP lesions	90% of Genital Warts 90% of RRP lesions

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Cervical Cancer Disease Burden in the United States



The American Cancer Society
estimates that in 2011

12,710 new cervical cancer cases
–4,290 cervical cancer deaths

Almost 100% of these cervical cancer
cases caused by one of the 40 HPV
types that infect the mucosa

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HPV Vaccines

HPV4 (Gardasil, Merck)

- contains HPV types 16, 18, 6 and 11
- approved for the prevention of cervical, vaginal and vulvar cancers (in females) anal cancer (in males) and genital warts (in females and males)

HPV2 (Cervarix, GSK)

- contains HPV types 16 and 18
- approved for the prevention of cervical cancers in females

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Human Papillomavirus Vaccines

High efficacy among females without evidence of infection with vaccine HPV types

No evidence that the vaccine had efficacy against existing disease or infection

Prior infection with one HPV type did not diminish efficacy of the vaccine against other vaccine HPV types

HPV4 reduces the risk of genital warts and anogenital cancer males and cost-effective to age 21 years

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HPV Vaccine Recommendations



Routine: 3 –dose series to females 11- 26
years

May be given to females 9-10 years

HPV4 recommended (same series, timing)
for males age 11-21 years

HPV 4 recommended for immunosuppressed
males, men who have sex with men, and
HIV-infected men 22-26 years

HPV4 may be administered to males 9-10
years and 22-26 years old
off-label recommendation

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MMWR 2010;59(No. 20):630-2



HPV Vaccine Interchangeability (females ONLY)



No data on schedules that include both HPV2 and HPV4

Response to types 16 and 18 likely to be similar when HPV2 and HPV4 used in the same series

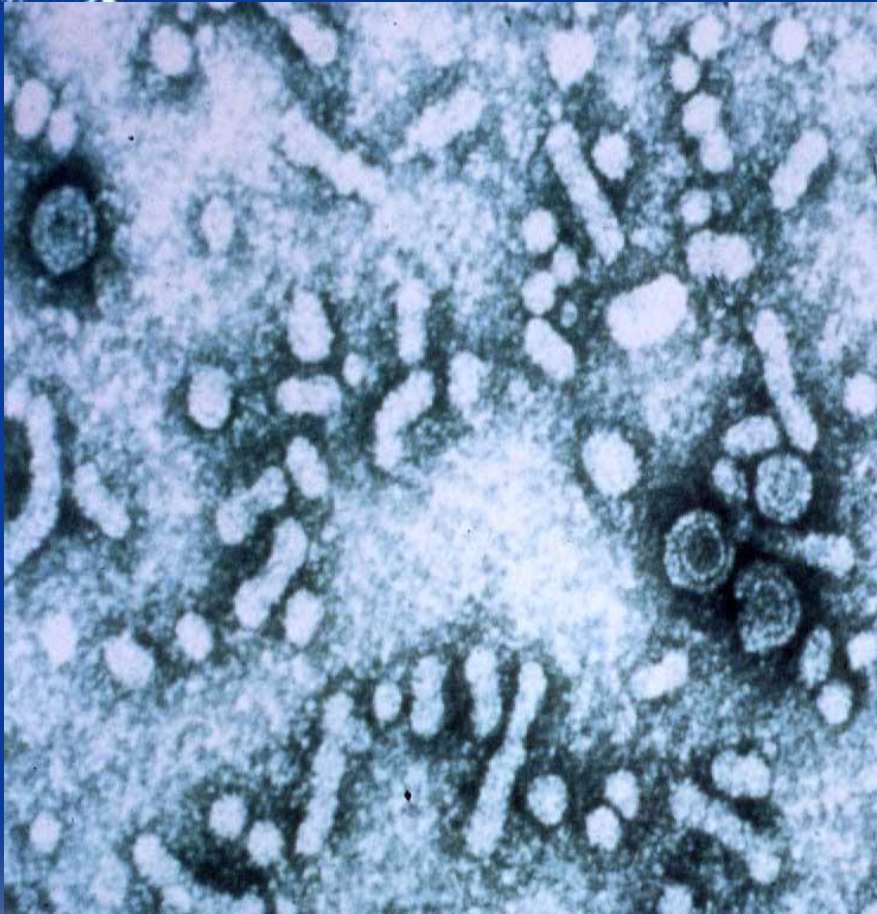
Protection against types 6 and 11 probably reduced if fewer than 3 doses of HPV4 received

Use same vaccine for all 3 doses whenever possible

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Hepatitis B



New Identified Risk Factors

Diabetics age 23 – 59 years*

25 outbreaks in 1996-2011 involving blood glucose monitoring

□ Emerging Infection Program

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Hepatitis B Vaccine Adult Recommendations



Medical

AIDS

chronic liver disease

receipt of clotting factors

DIABETES for persons 18-59 years

Behavior

multiple sexual partners

men who have sex with men

injection drug use

history of STD

travel to endemic region

Demographic

household contact HBsAg +

sex partner HBsAg+

immigrant/refugee from endemic region

Occupation

exposure to blood or sharps injury

staff/resident in developmental disability facility)

MMWR, December 23, 2011 / 60(50);1709-1711

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Pneumococcal Polysaccharide Vaccine



60%-70% against
invasive disease

Less effective in
preventing
pneumococcal
pneumonia



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Pneumococcal Polysaccharide Vaccine (PPSV23) Recommendations Adults



Adults 65 years and older

Persons 19 years and older with

- Cigarette smoking
- asthma

Persons 2 years and older with

- chronic illness
- anatomic or functional asplenia
- immunocompromised (disease, chemotherapy, steroids)
- HIV infection
- environments or settings with increased risk
 - American Indian/Alaska Native 50 years old or older, if considered by local health to be at high risk

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Pneumococcal Polysaccharide Vaccine Revaccination



Routine revaccination of immuno-competent persons is not recommended

Revaccination recommended for persons 2 years of age or older who are at highest risk of serious pneumococcal infection

Single revaccination dose at least 5 years after the first dose

MMWR 1997;46(RR-8):1-24

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Pneumococcal Polysaccharide Vaccine Candidates for Revaccination



Persons ≥ 2 years of age
with:

- functional or anatomic asplenia
- immunosuppression
- transplant
- chronic renal failure
- nephrotic syndrome

Persons vaccinated at < 65
years of age

MMWR 1997;46(RR-8):1-24

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Shingles (Herpes Zoster)



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Zoster



Generally associated with normal aging and with anything that causes reduced immunocompetence

Lifetime risk of 30% in the United States

Estimated 500,000- 1 million cases of zoster diagnosed annually in the U.S

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Zoster: Complications

Post-herpetic neuralgia

Pain that lasts after rash clears,
sometime up to a year

Occurs in 20 percent of shingles cases

Highest risk in persons older than 60
years

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The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812

JUNE 2, 2005

VOL. 352 NO. 22

A Vaccine to Prevent Herpes Zoster and Postherpetic Neuralgia in Older Adults

M.N. Oxman, M.D., M.J. Levin, M.D., G.R. Johnson, M.S., K.E. Schmader, M.D., S.E. Straus, M.D., L.D. Gelb, M.D., R.D. Arbeit, M.D., M.S. Simberkoff, M.D., A.A. Gershon, M.D., L.E. Davis, M.D., A. Weinberg, M.D., K.D. Boardman, R.Ph., H.M. Williams, R.N., M.S.N., J. Hongyuan Zhang, Ph.D., P.N. Peduzzi, Ph.D., C.E. Beisel, Ph.D., V.A. Morrison, M.D., J.C. Guatelli, M.D., P.A. Brooks, M.D., C.A. Kauffman, M.D., C.T. Pachucki, M.D., K.M. Neuzil, M.D., M.P.H., R.F. Betts, M.D., P.F. Wright, M.D., M.R. Griffin, M.D., M.P.H., P. Brunell, M.D., N.E. Soto, M.D., A.R. Marques, M.D., S.K. Keay, M.D., Ph.D., R.P. Goodman, M.D., D.J. Cotton, M.D., M.P.H., J.W. Gnann, Jr., M.D., J. Loutit, M.D., M. Holodniy, M.D., W.A. Keitel, M.D., G.E. Crawford, M.D., S.-S. Yeh, M.D., Ph.D., Z. Lobo, M.D., J.F. Toney, M.D., R.N. Greenberg, M.D., P.M. Keller, Ph.D., R. Harbecke, Ph.D., A.R. Hayward, M.D., Ph.D., M.R. Irwin, M.D., T.C. Kyriakides, Ph.D., C.Y. Chan, M.D., I.S.F. Chan, Ph.D., W.W.B. Wang, Ph.D., P.W. Annunziato, M.D., and J.L. Silber, M.D., for the Shingles Prevention Study Group*

ABSTRACT

BACKGROUND

The incidence and severity of herpes zoster and postherpetic neuralgia increase with age in association with a progressive decline in cell-mediated immunity to varicella-

The authors' affiliations are listed in the Appendix. Address reprint requests to Dr. Oxman at the Shingles Prevention Study



Herpes Zoster Vaccine Efficacy



Pre-licensure:

36,716 persons 60+ years
of age followed for 3 years
after vaccination

51.3% fewer episodes of HZ

66.5% less postherpetic
neuralgia

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Zoster Vaccine



Zostavax by Merck

Licensed May 2006

Live attenuated vaccine

Indicated for prevention of zoster and
post-herpetic neuralgia

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Zoster Vaccine



Recommended for persons 60 years
old and older

Indicated for persons with current
varicella immunity based on disease

Indicated regardless of a history of
zoster

One dose, 0.6 cc subcutaneous
injection

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Zoster Vaccine: Post-licensure Efficacy



Zoster Efficacy and Safety Trial (ZEST)

22,400 50-59 year olds

70% effective in
prevention of zoster

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Zoster Vaccine



Now licensed for adults 50-59 years of age

Routine vaccination of adults younger than 60 years NOT recommended

Reduced supply

Burden of complications highest in persons older than 60 years

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Zoster Vaccine Criteria of Varicella Immunity



1. Laboratory evidence of immunity or laboratory confirmation of disease
2. Born in U.S. before 1980*
3. Health-care provider diagnosis of or verification of varicella disease
4. Health-care provider diagnosis of zoster

*Does not apply to health-care providers, immunosuppressed, or pregnant

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Zoster Vaccine



Screening for a history of varicella disease is not necessary or recommended

Persons 60 years of age and older can be assumed to be immune regardless of their recollection of chickenpox (so don't ask)

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Zoster Vaccine



If tested and seronegative - 2 doses of single antigen varicella vaccine (Varivax[®]) separated by at least 4 weeks

Zoster vaccine – not indicated for persons with immunity due to vaccine

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Zoster and Pneumococcal Polysaccharide (PPSV) Vaccines



Zoster package insert indicates providers consider zoster and PPSV should not be administered concurrently

Based on a study that showed the titer against VZV was lower in persons who received zoster and PPSV at the same visit compared to persons who received these vaccines 4 weeks apart

Recently published study has shown concurrent administration of zoster and PPSV does not effect zoster vaccine efficacy

Tseng, H, Vaccine. 2011.

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Zoster and Pneumococcal Polysaccharide (PPSV) Vaccines



CDC has not changed its recommendation for either vaccine

Administer zoster and PPSV at the same visit if the person is eligible for both vaccines

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Thank You



Hotline: 800.CDC.INFO

Email: nipinfo@cdc.gov

Website: www.cdc.gov/vaccines



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